

# INDEX TO VOLUME TEN

## TITLE INDEX

A	
A.S.E.E.	116
Accelerometers	19, 124, 337, 563
—, calibration of	195
Accounting machine, N.C.R. 395-300	78
Activation analysis	75
Actuators	
—, electrothermal	449
—, high-torque linear d.c.	20
—, valve	83, 663
Adaptive control systems, a voltage-controlled variable-frequency signal source for use in	298
Adaptive system employing frequency-responsive servo-mechanisms, two-dimensional self-	276
Aerospace symposium at Cranfield	225
Airline seat reservation systems	
—, B.O.A.C.	457
—, United Air Lines	62
Alarm annunciators	18, 494
Alarm, flameproof audible	613
Alarm system, modular	126
Algebraic method for the design of linear servo-systems	475, 538
Alternators, static exciter for	446
Amplifiers	83, 218, 447, 615
—, d.c.	84, 448
—, d.c. chopper	83
—, differential	218, 448, 616
—, high-gain d.c.	617
—, hybrid differential	447
—, integrator	212
—, low-gain d.c.	83
—, low noise	219, 616
—, multi-channel	617
—, operational	213, 336, 448
—, power	216
—, servo power	80, 216
—, signal conditioning	219
—, transducer	616
Amplitude probability density, the measurement of	176
Analogue computer control of gas blending	491
Analogue computer modules	446
Analogue computers	644
—, CI-150	283
—, educational	213
—, hybrid, CI-175	552
—, hybrid, Vidac 20	551
—, pneumatic	335
Analogue-digital converter	16
Analogue multiplier	335
Analogue statistical parameters using operational amplifiers only, generation of on-line	473
Analysers	
—, a.f. wave	495
—, continuous octane rating	576
—, electrochemical	125
—, for amino acids, micro-	126
—, hydrogen-in-metals	125
—, polarographic	124
—, trace substance	125
Analysing iron-ore on-stream	226
Analytical instruments	124, 397, 446, 555
Annunciation system, neon-switched	494
Argus 400 computer to control Wiggins Teape mill	506
Automatic landing system	64, 207
B	
B.H.R.A., fluidics at the	439
Bakers receptive to control engineering	173
Batching	217, 339, 495
Bio-prosthetic system for joint movement	234, 312, 372
Binary sequences	302, 306, 364, 431
Bias	438, 516
Blending feedstuffs	111
Blending gasoline	441, 576, 628
Boiler control system	395
Boiler-turbine units in C.E.G.B. power stations, instrumentation and control of	82, 91, 145, 191, 249, 315, 366, 483, 542
Books see Reviews, Book	
Bridges	
—, auto-balance component	496
—, component	496
—, decade capacitance	449
—, decade inductance	480
—, impedance	496
—, LCR	665
—, self-balancing galvanometer	547
—, semiconductor resistivity	22
—, thermometer element	496
British Computer Society	61
British Hydromechanics Research Association	113
British Launderers' Research Association	172
British Numerical Control Society	167
Business efficiency 1966	651

C	
C.C.T.V., solid-state	17
C.E.G.B. automatic system-control experiment	117
C.E.G.B. headquarters computer system	458
C.E.G.B. power stations, instrumentation and control of modern boiler-turbine units in	82, 91, 145, 191, 249, 315, 366, 483, 542
C.R.T.	216, 217
Cake and Biscuit Alliance, Technologists' Conference of the	173
Calibration Service, British	293, 318
Calibrator, d.c.	22, 220
Carrier frequency modulator-demodulator	215
Casting, continuous	112
Centralized digital control (see also D.D.C.)	439
Checkweigher	345
Choppers	218, 219
Chromatograph detector, liquid	389
Chromatograph, gas	398
Chromatograph, on-stream gas	124
Chromatograph without valves for helium analysis, gas	489
Cigarette making	573
Circuit breaker, miniature	130, 554
Circuit card assembly machine	445
Classifying sheet at Scow, Llanelli	507
Clay meter for paper	397
Clock, digital	339, 613
Cloud point, automatic determination and control of	351
Clutch, miniature high-torque	615
Clutches, electrostatic	256
Coal cutting, controlled	8
Coal, transporting	627
Coefficient-setting potentiometer, automatic digitally controlled	78
Column effluent monitor	556
Communication, data	78
Communications system, computer-based	79
Component tester	219, 341
Comparator, differential	23
Comparators, voltage/current	127
Computer colloquium (I.E.E./I.E.R.E.)	67
Computer compiler processor	229
Computer Conference, 1966 British Joint	323
Computer control	347, 512, 583, 633
—, Dutch ethylene plant (C.A.E. 510)	169
—, Easo, Fawley (Foxboro-PCP88)	63
—, gas blending, analogue	491
—, gasmaking	226
—, Lackenby plate mill (Con/Pac 4000)	63
—, Merviken nuclear station (Con/Pac 4060)	63
—, road-tanker loading	226
—, steel industry	387
—, warehouse stock movement	279
Computer, co-ordinating rail freight services	76
Computer design of frequency-selective linear networks	204
Computer designers still favour ferrite cores	67
Computer-oriented data link	4
Computer programming method	56
Computer sub-systems	552
Computer type-setting	290
Computing system, laboratory	336
Computers, analogue	644
—, CI 150	283
—, educational	213
—, hybrid CI 176	552
—, hybrid, Vidac 20	551
—, pneumatic	335
Computers, digital	15, 77, 103, 127, 212, 282, 334, 392, 443, 506, 551, 566, 609, 625, 660
—, A.E.U. Con Pac/ 4020	282
—, Burroughs B2500 and B 3500	334
—, DDP-124	79
—, E.E.-L.-M. system 4-10	660
—, E.E.-L.-M. system 4-75	290
—, educational	552
—, Electronic Associates 640	660
—, Elliott Arch 102 process controller	392
—, Elliott 920M microminiature	392
—, Ferranti Argus 200	118
—, Ferranti FM 1600C microminiature	392
—, Foxboro-PCP 88	63
—, G.E.C. microminiature G 719	212
—, I.C.T. 1900	609
—, I.C.T. 1907-8	290
—, I.S.C. (G.E.C.) series-90	15
—, Marconi Myriad II	660
—, Olivetti Programma 101	609
—, P.D.P.-8	660
—, Siemens 4004/35 system	15
—, Sigma 7	282
—, Telefunken TR 440	128
—, 1108-11 multiprocessor	52, 77
—, Univac 9200/9300 series	443
Computers—Flowers Report	66
Computers (Con/Pac 4040) for I.C.I. and Shell plants, process	159
Computers for Swedish papermakers (A.E.I. Con/Pac)	347
Computers, general-purpose digital (survey 35)	103

Computers in chemical plant design and operation, digital	392
Computers in engineering design	5
Computers simulate P.O. exchanges	4
Conductivity meter, solution-	126
Contactors, 300A vacuum	21
Contactors, reversing	129
Contactors and starters	129
Contactors, motor switching	21
Controller, self-optimizing proportional-plus-integral	594
Controllers	18, 81, 126, 213, 394, 493, 612
—, binary batch	613
—, electronic/pneumatic indicating	396
—, flow	19
—, indicating	18, 612
—, level, indicating	493
—, modular	18
—, motor speed	82
—, panel mounting	395
—, pneumatic	19, 394
—, power	618
—, power-press guard	618
—, recording	612
—, shell boiler, solid fuel	336
—, temperature indicating	61
—, temperature, liquid	494
—, temperature, multi-point	394
—, temperature recording	394
—, temperature, solid-state	395
—, vacuum, servo-operated	61
Conversion control in a continuous reactor train, improved	159
Converter, a.c.-d.c.	610
Converter, analogue-digital	78, 335, 393
Converter, card-magnetic tape	610
Converter, punched-magnetic tape	611
Converter, punched-tape	443
Conveyor control logic	494
Conveyor system, air-cushion	336
Co-ordinate marking out table	618
Copier, electrostatic	212
Core matrices	610
Core memory tester	77
Core-store, integrated	16
Core-stores, translator for	16
Counters	82, 217, 339, 497, 567, 613
—, batch	82, 217, 557, 613
—, decade, monolithic	339
—, decimal	16
—, fluidic, monolithic	497
—, integrating	614
—, mechanical	614
—, non-reset	339
—, packed product	217
—, printing	497
—, revolution, digital	557
—, single decade	339
—, surge	613
—, timer	339, 558
Cunarder, A.E.I. pneumatic controls for new	440
Current transformer test set	664
Curve resolver	397
D	
D.D.C. (direct digital control)	439
D.D.C. applied to a 250 MW generator	544
D.D.C. for Imperial Smelting, Avonmouth	347, 625
D.D.C.-plus for Bowater's paper machine	229
D.D.C. system, heat exchanger	327
Data acquisition at oil terminals	390
Data combiner	661
Data-communications terminal	393
Data link	610
Data, link, computer-oriented	4
Data link, gallium arsenide lamp in	582
Data loggers	17, 77, 213, 282
Data logging scanner	611
Data-processing modules	552
Data processing at the Rutherford Laboratory	360
Data processing complex, Europe's largest	348
Data processors (see Computers)	
Data sheets	
The roots of quadratic equations by J. F. Darby (Data sheet 36)	66
The technique of optimization by Antony Griffin (Data sheet 37)	282
Data-transmission system	335
Data transmission tester	16
Data transmitter-receiver	17
Datafair	61
Delay units, plug-in	21
Detector, metal	396
Digital circuit test system	665
Digital decoder	18
Digital indexer, tape-controlled	337
Digital lead-network for discrete control systems	657
Digital voltmeter	17, 219
Digitizer, angle	78
Direct digital control (see D.D.C.)	
Diesel-engine control for ships, automatic	337
Disk stores	334, 609
Displacement detector/filter	61

[illegible]



Mathematics of control systems	321
Mechanical handling	609, 626, 627
Mechanical Handling Exhibition	324
Megger, battery	341
Memory cell, 10-bit	444
Memory, integrated-circuit core	79
Memory, random access	661
Memory test system	128
Metal detection, remote indicator for	198
Meter, nanosecond multi-	22
Metering Beelster gin	292
Metering device, low-flow oil	122
Metering, liquid sugar	112
Meters, edgewise panel	131
Microminiaturization in control equipment and computers	48
Moisture-gauge, infra-red	338
Monitor, voltage-drift	450
Moog Hydra-Point numerical control system	197
Motor for extreme environments, a brushless adjustable-speed	40
Motor control, synchronous	582
Motor speed controllers	82
Motors	
—, d.c. micro	20
—, heating and life of	586
—, miniature d.c.	342
—, miniature synchronous	342
—, small reluctance	515
—, stepping	614
—, variable-stiffness torque	20
Multi-meter, digital	498
Multi-process systems, E.E.-L.-M. and I.C.T.	290
Myriad for new London a.t.c. centre	506
<b>N</b>	
N.C.B.'s automatic coal-from-stone separator	441
N.E.L. work on numerically-controlled machine tools	326
N.R.D.C.	5, 326
National Computing Centre	3, 505, 625
National Engineering Laboratory	328, 377
National Physical Laboratory	378
Neutron detectors	20
New hardware and software	15, 77, 123, 212, 282, 334, 392, 443, 493, 551, 609, 660
Noise generators, random	22
Numerical control educational kit	615
Numerical control, flame-cutting machine with	336
Numerically Controlled Machine Tool Exhibition	258
Numerically controlled miller, pneumo-hydraulic	197
<b>O</b>	
Octane rating analyser, on-line	576
Ohmmeter, production test	84
Oil blending	380, 628
Oil filter pack, portable	449
Oil inertia on resonant frequency of hydraulic drives, effect of	181
On-line analogue statistical parameters using operational amplifiers only, generation of	473
Optical reader	680
Optically read documents, common font for	638
Optimization in automatic control	633
Optimization in the presence of constraints	355
Optimization, the technique of	252
Optimizer for rotary engine power, simple peak-holding	120
Optimizing proportional-plus-integral controller, self-	594
Ore-agglomeration plant	105
Oscillator, l.f.	450
Oscillator, sine and square wave	23
Oscillograph, u.-v.	394
Oscilloscopes	23, 84, 219, 341, 495
Output writer	16
Oxygen analyser, portable	556
Oxygen meters	125
<b>P</b>	
Paper production, integrated control of	583
Paper, rubber and plastics industries talk over automation	633
Paper web-tension and reel-changing, automatic control of	490
Paper web-tension control	435
Paperwork, how to automate your	60
Passenger liner, auto-controlled	227
Pencil follower	212
Pendulum controller	493
Pendulum model of second-order positional servo-mechanisms with synchro error detection	28, 97
pH meters	447, 556
Phase-advance signal shaping, frequency response of second-order linear systems with	241
Phase-angle voltmeter	215
Phase-meter, direct-reading	84
Phase-sensitive detector/meter	215
Phase shifter/phase-sensitive detector	85
Phase standard	220
Photocell (chopper)	616
Photo-detectors, fast-response	125
Photohead, high temperature	214
Phys. Soc. 1986	199
Physiological patient monitor	217
Pick-off	55, 100, 155, 208, 276, 318, 376, 434, 472, 526, 604, 637

Pick-up, magnetic	20, 61
Pipeline (transpline and Chem-Iran)	455
Plastics industry	633
Plating, automatically programmed	74
Plotter, field	444
Plotter, x-y	79, 534
Plotting system, magnetic-tape	212
Pneumatic controls for new Cunarder	440
Pneumatic cylinder	83
Pneumatic differential actuator with position feedback for prosthesis control, linear analysis of a	428, 484
Pneumatic logic	536, 562
Pneumatic programmer	650
Pneumatic servo-motors, use of root loci in design of	423
Pneumatic simulator for control studies	384
Pneumatic test system	496
Pneumo-hydraulic numerically controlled miller	197
Porosity tester, plated-coating	341
Post Office chooses System 4	505
Potentiometer, motorized	80
Potentiometric voltmeter	219
Powder filler	685
Power transistors	615, 617
Press-brake guards	448
Pressure instrument calibrator	396
Pressure gauge, corrosive-fluid	553
—, partial	20
Pressure meter, differential-	124
Pressure recorder	218
Pressure switches	19, 131, 283, 396, 495
Pressure transducers	214, 337, 553, 612
—, d.c. energized	284
—, force-balance digital	605
—, high-level	123
—, (oscillator-demodulator)	611
—, semi-automatic calibrator for	488
—, subminiature	123
Pressure transmitters, pneumatic differential	80, 611
Pressure/vacuum gauge	19
Print quality monitor	536
Printed characters, automatic identification of	105
Printed-circuit servo-motor, characteristics of	136
Printer, high-speed optical	77
Printer/plotter, microfilm	212
Printer, punched tape	15
Printers, shaft encoder for	128
Process computing, more interest in	228
Process plant simulation	171
Production control by computer	522, 600
Program board	494
Programmed pulse generator	219
Programmed Tarmac mixing, card-	626
Programmer, pneumatic	650
Programmers	18, 395, 494
Prosthesis control	183, 234, 312, 372, 428, 484
Proximity sensors	553
Proximity switches	390, 611
Proximity transducer, inductive	611
Pseudo-random sequences, theory and application of	305
Pump control system	483
Pump for fluids, multi-channel	447
Pump, low-rate metering	448
Pumps, constant power-output, hydraulic	665
Pumps, micro-metering	82
Punch and verifier, key	127
Pulse generators	23, 219, 496, 564, 665
<b>Q</b>	
Quality control in cigarette making	573
<b>R</b>	
R.A.E.'s structures test facility	350
Radiation detectors	75
Radiation monitor	81
Rail freight services by computer, co-ordinating	76
Random access memory	681
Rangefinder, laser	649
Ratometer	218
Reader, optical	680
Readouts, rear-projection	394
Recognition, improvements in imaged patterns for automatic	374
Recorders	131, 216, 394, 556
—, instrumentation	129
—, millivolt	127, 556
—, multi-channel oscillograph	567
—, potentiometric chart	132, 556
—, pressure	216
—, refrigerated cargo	216
—, thermal writing	216
—, x-y	216, 557
Recording heads, instrument	335
Reed inserts, dry	22
Reed switches	22, 340
Refrigerated cargo recorder	216
Regulator, panel airflow	338
Relays	21, 129, 339, 554
—, bi-stable	554
—, encapsulated	129
—, fluid control	339
—, induction overcurrent	21
—, latching	555
—, miniature changeover	21
—, photocell	130
—, reed	555
—, sealed mercury	340
Remote control and telemetry	455, 555

Research and development: communicating the results	658
Resistance tester, high	22
Resistor classifier, automatic	86
<b>Reviews, Book—by authors' names</b>	
Allen, R. W. and Burch, R. F. <i>The thin film thermometer as a triggering and measuring device in a shock tube</i>	162
Ash, Milton <i>Nuclear reactor kinetics</i>	281
Ashton, Winifred D. <i>The theory of road traffic flow</i>	549
Athens, Michael and Fall, Peter L. <i>Optimal control</i>	659
D'Azzo, John J. and Houpis, Constantine H. <i>Feedback control system analysis and synthesis</i>	608
Barnett, Michael P. <i>Computer typesetting—experiments and prospects</i>	498
Batchelor, J. H. (see Upon)	
Batten, J. D. <i>Developing a tough-minded climate</i>	58
Berge, Claude and Ghoulia-Houri, A. <i>Programming, games and transportation networks</i>	210
Best, G. C., Hickman, S. A., Hooton, I. N. and Prior, G. M. <i>The most active zone encoder for multiparameter analysis</i>	332
Blankenship, A. B. and Doyle, J. B. <i>Marketing research management</i>	210
Booth, Andrew D. and Booth, Kathleen H. V. <i>Automatic digital calculators</i>	332
Booth, Kathleen H. V. (see Booth Andrew D.)	
Brown, B. M. <i>The mathematical theory of linear systems</i>	210
Burch, R. F. (see Allen)	
Burn, Duncan, Seale, J. R. and Ratcliff, A. R. N. <i>Lessons from central forecasting</i>	211
Canfield, Eugene B. <i>Electromechanical control systems and devices</i>	108
Chestnut, Harold. <i>Systems engineering tools</i>	210
Close, Charles M. (see Russo)	
Cohen, John <i>Human robots in myth and science</i>	381
Cowles, L. G. <i>Analysis and design of transfer circuits</i>	608
Cox, D. R. and Miller, H. D. <i>The theory of stochastic processes</i>	390
Cushing, W. R. and Ingram, M. C. <i>Cush—a computer programme for the steady state hydraulic analysis of steam generating reactor systems</i>	608
Davies, P.O.A.L. <i>An introduction to dynamic analysis and automatic control</i>	499
Dean, K. J. <i>A laboratory manual of electronics</i>	499
Dicke, R. H. <i>The theoretical significance of experimental relativity</i>	211
Dorf, R. C. <i>Time-domain analysis of control systems</i>	389
Doyle, J. B. (see Blankenship)	210
Dummer, G. W. A. <i>Modern electronic components</i>	498
Dummer, G. W. A. <i>Proceedings of the First Micro-electronics Lecture Course</i>	499
Fall, Peter L. (see Athens)	
Feinberg, R. <i>Handbook of electronic circuits</i>	333
Finnie, J. <i>The accountant's dilemmas</i>	499
Fitchin, F. C. <i>Transfer circuit analysis and design</i>	608
Ghoulia-Houri, A. (see Berge)	
Griffin, A. W. J. and Ramshaw, R. S. <i>The thyristor and its applications</i>	499
Gruenberg, Fred and Jaffray, George <i>Problems for computer solution</i>	161
Hartley, M. G. <i>An introduction to electronic analogue computers</i>	389
Hemingway, T. K. <i>Electronic designer's handbook</i>	607
Hickman, S. A. (see Best)	
Hirst, A. W. <i>Applied electricity: 4th ed.</i>	607
Hogg, I. H. and Roland-Smith, J. <i>A survey of the use of literature and information in the R &amp; D branch</i>	549
Holland, L. <i>Thin film microelectronics</i>	332
Hooton, I. N. (see Best)	
Hore, R. A. <i>Advanced studies in electrical power system design</i>	498
Houpis, Constantine H. (see D'Azzo)	
Humphrey, E. F. and Tanamoto, D. H. <i>Fluidics</i>	607
Hunt, Pearson. <i>Financial analysis in capital budgeting</i>	333
Ingram, M. C. (see Cushing)	
Jaffray, George (see Gruenberg)	
Jevons, Morris <i>Electrical machine theory</i>	550
Känel, Walter <i>Operations Research und betriebswirtschaftliche Entscheidungen</i>	607
Kautz, William H. <i>Linear sequential switching circuits: selected technical papers</i>	332
Kilian, Ray A. <i>Managers must lead!</i>	608
Kronrod, A. D. <i>Nodes and weights of quadrature formulas</i>	281
Lees, Clifford <i>Patent protection, the inventor and his patent</i>	161
Leonides, Cornelius T. <i>Modern control system theory (edited by)</i>	281
Lindmayer, J. and Charles Y. Wrigley <i>Fundamentals of semiconductor devices</i>	107

Livovsch, Leon <i>Automata finita cu elemente logice pneumatice si hidraulice</i>	210	British instruments directory and data hand-book	607	Recommendations for the guarding of vacuum forming machines and Recommendations for the guarding of blow moulding machines	281
Martino, R. L. <i>Allocating and scheduling resources</i>	107	British Standard 204: 1960. Glossary of terms used in telecommunication (including radio) and electronics. Supplement No. 2. Semiconductors and semiconductor devices	281	Removing the obstacles to automation. Report of a conference held under the auspices of Foundation on Automation and Employment by Margaret Stewart	107
Miller, H. D. (see Cox)		Cast iron butterfly valves for general purposes. B.S. 3952: 1965	499	Semiconductor heat sinks available in the U.K.	390
Miller, Raymond E. <i>Switching theory. Volume II: Sequential circuits and machines</i>	600	Code for temperature measurement, part 4—Thermocouples. B.S. 1041	489	Semiconductors and their circuits: Vol. 1—Semiconductor theory by N. F. Moody	608
Moody, N. F. <i>Semiconductors and their circuits: Vol. 1—Semiconductor theory</i>	608	Computer programming techniques by Theodore G. Scott	281	Signals and noise in communications systems by Harrison E. Rowe	332
Naslin, P. <i>An algebraic method for the design of linear servo-systems</i>	475	Computer typesetting—experiments and prospects by Michael P. Barnett	498	Specification for cast iron parallel slide valves for general purposes. B.S. 3948	549
<i>The dynamics of linear and non-linear systems</i>	108	Current transformers. B.S. 3939: 1965	389	Standard motor dimensions in the United Kingdom and abroad	549
Oldenburger, Rufus <i>Optimal control</i>	659	Cush—e computer programme for the steady state hydraulic analysis of steam generating reactor systems by W. R. Cushing and M. C. Ingram	608	State variables for engineers by Paul M. de Russo, Rob J. Roy and Charles M. Close	498
Opler, A. <i>Programming the I.B.M. System/360 by the staff of Computer Usage Co.</i>	608	Developing a tough-minded climate by J. D. Batten	58	Statistical dynamics of linear automatic control systems by V. V. Solodovnikov	58
Papouler, R. <i>Electrical phenomena in gases</i>	211	Dimensions of semiconductor devices B.S. 3934: 1965	389	Switching theory. Volume II: Sequential circuits and machines by Raymond E. Miller	500
Paul, Frederick J. (see Scavullo)		Econometrics by G. Tinter	389	Synchro engineering handbook by A. R. Upson and J. H. Batchelor	659
Paul, R. J. A. <i>Fundamental analogue techniques</i>	108	Electrical machine theory by Morris Jevons	550	Systems engineering tools by Harold Chestnut	210
Pelczewski, W. <i>Les generatrices amplificatrices</i>	549	Electrical phenomena in gases by R. Papouler	211	The accountant's dilemmas by J. Finnie	499
Pridham, G. J. <i>The silicon gate-controlled switch</i>	550	Electrical protective systems for a.c. plant B.S. 3950: 1965	391	The computer and your company	58
Prior, G. M. (see Best)		Electromechanical control systems and devices by Eugene B. Canfield	108	The dynamics of linear and non-linear systems by P. Naslin	108
Reil, L. G. <i>Error in digital computation. Volume II</i>	499	Electronic designer's handbook by T. K. Hemingway	607	The mathematical theory of linear systems by B. M. Brown	210
Ramshaw, R. S. (see Griffin)		Electrically controlled adjustable speed drive equipment	390	The most active zone encoder for multi-parameter analysis by G. C. Best, S. A. Hickman, L. N. Hooton and G. M. Prior	332
Ratcliff, A. R. N. (see Burn)		Error in digital computation. Volume II edited by L. B. Rail	499	The silicon gate-controlled switch edited by G. J. Pridham	580
Rice, T. W. (see Warren)		Fili 3: A digital computer code for the solution of sets of first-order differential equations and the analysis of process plant dynamics by Helen M. Summer	498	The social and economic consequences of automation. Report of a conference held on 9th-12th July 1965	107
Roland-Smith, J. (see Hogg)		Financial analysis in capital budgeting by Pearson Hunt	333	The thin film thermometer as a trigger and measuring device in a shock tube by R. W. Allen and R. F. Burch	162
Rowe, Harrison E. <i>Signals and noise in communications systems</i>	332	Fluidics edited by E. F. Humphrey and D. H. Tarumoto	607	The theory of road traffic flow by Winifred D. Ashton	549
Roy, Rob J. (see Russo)		Fundamental analogue techniques by R. J. A. Paul	108	The theory of stochastic processes by D. R. Cox and H. D. Miller	390
Russo, Paul M. de, Roy, Rob J. and Close, Charles M. <i>State variables for engineers</i>	498	Fundamentals of semiconductor devices by Joseph Lindmayer and Charles Y. Wrigley	107	The theoretical significance of experimental relativity by R. H. Dicke	211
Scavullo, Joseph J. and Paul, Frederick J. <i>Aerospace ranges: instrumentation</i>	211	'Gyros' symposium	161	The thyristor and its applications by A. W. J. Griffin and R. S. Ramshaw	499
Scott, Theodore G. <i>Basic computer programming</i>	332	Handbook of electronic circuits edited by R. Feinberg	333	Thin film microelectronics edited by L. Holland	332
Seale, J. R. (see Burn)		Handbook of operational amplifier applications	108	Test facilities in the United Kingdom. Environment, quality, reliability, approval	499
Smith, Paul T. <i>How to live with your computer</i>	161	How to live with your computer by Paul T. Smith	161	Time-domain analysis of control systems by R. C. Dorf	389
Solodov, A. V. <i>Linear automatic control systems with varying parameters</i>	498	How to organise OR campaigns	389	Transistor circuit analysis and design by F. C. Fitchin	608
Solodovnikov, V. V. <i>Statistical dynamics of linear automatic control systems</i>	58	Human robots in myth and science by John Cohen	391	Valves for the control of fluids	659
Stanley, Alexander O. and White, K. K. <i>Organizing the r. &amp; d. function</i>	390	I.E.A. Year Book 1966	389	Voltage transformers B.S. 3941: 1965	389
Stewart, Margaret <i>Removing the obstacles to automation. Report of a conference held under the auspices of Foundation on Automation and Employment</i>	107	Instruments and measurements	161	Ring laser angular-rate gyroscope	545
Summer, Helen M. <i>Fili 3: A digital computer code for the solution of sets of first-order differential equations and the analysis of process plant dynamics</i>	498	Introduction to non-linear automatic control systems by R. Tomovic	607	Ring laser for sensing low rates of rotation	649
Sward, Knut <i>Machine tool maintenance</i>	549	Les generatrices amplificatrices by W. Pelczewski	549	Road-laying, automatic	6
Tarumoto, D. H. (see Humphry)		Lessons from central forecasting by Duncan Burn, J. R. Seale and A. R. N. Ratcliff	211	Root loci in design of pneumatic servo-motors	423
Tinter, G. <i>Econometrics</i>	389	Linear automatic control systems with varying parameters by A. V. Solodov	498	Rotation, ring laser for sensing low rates of	649
Tomovic, R. <i>Introduction to non-linear automatic control systems</i>	607	Linear sequential switching circuits: selected technical papers edited by William H. Kautz	332	Routh's stability criteria, Simple derivation of	358
Upson, A. R. and Batchelor, J. H. <i>Synchro engineering handbook</i>	659	Machine tool maintenance by Knut Sward	549	Rubber industry	633
Warren, G. R. and Rice, T. W. <i>An assessment of reactor safety modelling techniques based on the accident to the SL-1 boiling-water reactor</i>	108	Managers must lead by Ray A. Killian	608	Rutherford Laboratory, data processing at	380
White, K. K. (see Stanley)		Marketing research management by A. B. Blankenship and J. B. Doyle	210		
Wilson, Robert A. <i>Optical page reading devices</i>	659	Materials handling in industry	549	S.I. units	155
Wrigley, Charles Y. (see Lindmayer)		Metric standards for engineering: B.S. Handbook No. 18	500	S.I.T.	171
Reviews. Book—by titles		Modern control systems theory edited by Cornelius T. Leondes	281	Sample changer, automatic	556
A guide to supplier quality assurance in engineering	607	Modern electronic components by G. W. A. Dummer	498	Satellite position prediction display	442
A laboratory manual of electronics by K. J. Dean	499	Nodes and weights of quadrature formulas by A. D. Kronrod	281	Scalars	82
A survey of the use of literature and information in the R & D branch by I. H. Hogg and J. Roland-Smith	549	Non-linearity in audio amplifiers	107	Schmitt trigger, fluid	340
A tabulation of case studies on technological change. Labour and Automation Bulletin No. 2	548	Nuclear reactor kinetics by Milton Ash	281	Science Research Council	624
Achieving balance between capacity and sales	211	Operations Research und betriebswirtschaftliche Entscheidungen by Walter Känel	607	Scottish Pulp and Paper Mills	565
Advanced studies in electrical power system design by R. A. Hore	498	Optical page reading devices by Robert A. Wilson	659	Screwdown, digital	566
Advances in automatic control	390	Optimal control by Michael Athans and Peter L. Fall	659	Sensor, mechanically resonant	13
Aerospace ranges: instrumentation by Joseph J. Scavullo and Frederick J. Paul	211	Optimal control by Rufus Oldenburger	659	Sensor, meter-pointer	612
Allocating and scheduling resources by R. L. Martino	107	Organizing the r. & d. function by Alexander O. Stanley and K. K. White	390	Sequences control of I.C.I. plant	111
An assessment of reactor safety modelling techniques based on the accident to the SL-1 boiling-water reactor by G. R. Warren and T. W. Rice	108	Patent protection, the inventor and his patent by Clifford Lees	161	Sequences, generation and properties of maximum-length	302, 364, 431
An introduction to dynamic analysis and automatic control by P. O. A. L. Davies	499	Pneumatic handbook	162	Sequences, theory and application of pseudo-random	305
An introduction to electronic analogue computers by M. G. Hartley	389	Problems for computer solution by Fred Gruenberger and George Jeffray	161	Services Electronics Research Laboratory	625
Analysis and design of transistor circuits by L. G. Cowles	606	Proceedings of the First Microelectronics Lecture Course edited by G. W. A. Dummer	499	Servo compensation, design of switched networks for a.c.	299, 370
Applied electricity: 4th ed. by A. W. Hirst	607	Programming, games and transportation networks by Claude Berge and A. Ghoulia-Houri	210	Servo component kit	215
Automata finita cu elemente logice pneumatice si hidraulice by Leon Livovsch	210			Servo-mechanisms, performance advantages of certain non-linear	45
Automatic digital calculators by Andrew D. Booth and Kathleen H. V. Booth	332	Programming the I.B.M. System/360 by the staff of Computer Usage Co. edited by A. Opler	608	Servo-mechanisms, two-dimensional self-adaptive system employing frequency-responsive	276
Basic computer programming by Theodore G. Scott	332			Servo-mechanisms with synchro error detection, the pendulum model of second order positional	28, 97



—, d.c. micro-	340
—, digital	480
—, high noise-rejection digital	218
—, phase angle	215
—, potentiometric	219
Volt-ohmmeter, a.c./d.c.	220
W	
Ward Leonard set, instructional	616
Warehouse automation	8, 112
Warren Spring Laboratory	624
Water meter, helix	214
Water quality monitor	397
Water supply	455
Wattmeter, transducer-operated analogue	337
Weight recording, automatic	111
Weld quality monitor, spot and seam	419
X	
X-Y recorder	216
Z	
Z-transforms in system compensation, advantages of	34
AUTHOR INDEX	
A.E.E. Review of Applied electricity: 4th ed. by A. W. Hirst	
Abrahams, J. R. Signal flow graph methods	31, 55, 150
Adcock, W. J. The next steps towards automation in the mines	621
Adorini, Paul Management's main task for the next decade	503
Alexandrovitz, A. and Erlicki, M. S. A two-phase motor and tachogenerator with common magnetic circuit	239
Amyot, J. R. The pendulum model of second-order positional servo-mechanisms with synchro error detection	20, 97
Anthony, D. M. Review of A guide to supplier quality assurance in engineering	607
Axon, A. G. (see Crespin)	
Azar, Y. Review of Statistical dynamics of linear automatic control systems by V. V. Solodovnikov	58
Banyard, C. W. Review of How to live with your computer by Paul T. Smith	161
Beechey, M. A. and Crump, R. F. E. Instrumentation and control of modern boiler-turbine units in C.E.G.B. power stations	62, 91, 145, 191, 249, 315, 366, 483, 542
Beer, Stafford. Review of Human robots in myth and science by John Cohen	391
Bell, D. A. Review of Instruments and measurements	161
—, Review of Signals and noise in communications systems by Harrison E. Rowe	332
Bell, Donald Review of The theory of road traffic flow by Winifred D. Ashton	549
Bertoya, H. C. Review of Semiconductors and their circuits: Vol. 1—Semiconductor theory by N. F. Moody	606
Blackman, P. F. Review of The dynamics of linear and non-linear systems by P. Naslin	108
—, Review of The mathematical theory of linear systems by B. M. Brown	210
—, Review of Feedback control system analysis and synthesis by John J. D'Azzo and Constantine H. Houps	606
Brann, R. P. Linear analysis of a pneumatic differential actuator with position feedback for prosthesis control	428, 484
Broida, Victor (see Korobov)	
—, Review of Automate finitie elements logice pneumatice si hidraulice by Leon Livovschi	210
Bryant, G. F. Review of State variables for engineers by Paul M. de Russo, Rob J. Roy and Charles M. Close	498
Bugden, A. R. Review of A survey of the use of literature and information in the R & D branch by I. H. Hogg and J. Roland-Smith	549
Burrows, C. R. and Webb, C. R. Use of root loci in design of pneumatic servo-motors	423
Cameron, A. R. Review of Nuclear reactor kinetics by Milton Ash	281
Charnley, C. J. Review of Pneumatic handbook	162
Clarke, R. L. Review of Managers must lead! by Ray A. Kilian	606
Clausen, H. Review of Patent protection, the inventor and his patent by Clifford Laas	161
Colville, R. F. Review of Achieving balance between capacity and sales	211
Cooke, P. Microminiaturization in control equipment and computers	46
—, Review of Thin film microelectronics edited by L. Holland	332
—, Review of Semiconductor heat sinks available in the U.K.	390
—, Review of Proceedings of the First Microelectronics Lecture Course edited by G. W. A. Dummer	499
—, Review of The silicon gate-controlled switch edited by G. J. Pridham	550
Cotter, J. E. Review of Allocating and scheduling resources by R. L. Martino	107
Crespin, G. T. F. and Axon, A. G. Automatic determination and control of cloud point	381
Crump, R. F. E. (see Beechey)	

—, Review of Code for temperature measurement, part 4—Thermocouples. B.S. 1041	499	—, Review of Optical page reading devices by Robert A. Wilson	689	differential equations and the analysis of process plant dynamics by Helen M. Sumner	498
Darby, J. F. The roots of quadratic equations	96	James, E. B. Review of Problems for computer solution by Fred Gruenberger and George Jeffray	161	Rothwell, D. Characteristics of the printed-circuit servo-motor	136
Dellow, R. W. Review of A laboratory of electronics by K. J. Dean	499	James T. P. Mechanical handling in automation	508, 653	—, Review of Electrical machine theory by Morris Jevons	550
Davies, W. D. T. Generation and properties of maximum-length sequences	302, 364, 431	Jameson, H. W. Review of Electrical protective systems for a.c. plant	391	Royle, J. K. Review of Fluidics edited by E. F. Humphrey and D. H. Tarnumto	607
—, A self-optimizing proportional-plus-integral controller	595	Jones, B. Review of Metric standards for engineering: B.S. Handbook No. 1—	500	Schwarzenbach, J. (see Gill)	
—, 'Exact' simulation of a simple tubular heat exchanger	489	Jones, R. H. Review of Marketing research management by A. B. Blankenship and J. B. Doyle	210	Shackshaft, G. Review of Advanced studies in electrical power system design by R. A. Hore	498
—, Review of An Introduction to electronic analogue computers by M. G. Hartley	389	Karakey, M. R. Automatic digitally controlled coefficient-setting potentiometer	178	Shadbolt, M. J. Review of The thin film thermometer as a trigger and measuring device in a shock tube by R. W. Allen and R. F. Burch	162
Duckenfield, M. J. Review of Optimal control by Rufus Oldenburger	659	—, (see Freeman)		Shearer, J. Lowen, Etzweiler, George A. and Reid, Karl N. Jr. Look at America	56, 101, 159, 204, 279, 327, 387, 442, 544, 605, 657
Elton, R. P. Review of British Instruments directory and data handbook	607	Kliner, Daphne P. General-purpose digital computers (Survey 35)	103	Shortland, M. G. Report on Ifac 66	401
Ericki, M. S. (see Alexandrovitz)		Knight, Michael Review of Financial analysis in capital budgeting by Pearson Hunt	333	Sisson, G. M. A 3-D view of our work	133
Etzweiler, George A. (see Shearer)		Koenigsberger, F. Industrial training and university education	345	Souza, Harold de A blo-prothetic system for joint movement	234, 312, 372
Finkelstein, L. Review of Operations Research und betriebswirtschaftliche Entscheidungen by Walter Känel	607	Korobov, Jurij, Report on Ifac 66	401	Stokes, B. E. To see or not to see	165
Fischbacher, R. E. Report on Ifac 66	401	Korobov, Jurij and Broida, Victor Look at the Continent	105, 158, 208, 276, 329, 384, 490, 547	—, Review of Machine tool maintenance by Knut Sward	549
—, Review of Organizing the r. & d. function by Alexander O. Stanley and K. K. White	390	Korn, K. E. and Lamb, J. H. Production control by computer	522, 600	Storey, C. Review of Linear automatic control systems with varying parameters by A. V. Solodov	498
Finanigan, T. P. Bakers prove receptive to control engineering ideas	173	Lamb, J. H. (see Korn)		—, Review of Introduction to nonlinear automatic control systems by R. Tomovic	607
Formby, John Review of Modern control system theory edited by Cornelius T. Laondes	281	Leslie, W. H. P. Review of Modern electronic components by G. W. A. Dummer	498	—, Review of Programming the I.B.M. System/360 by the staff of Computer Usage Co. edited by A. Opler	608
Foster, D. Review of How to organise QR campaigns	389	Lewis, C. D. Generation of on-line analogue statistical parameters using operational amplifiers only	473	—, Optimization in automatic control	629
—, Review of A tabulation of case studies on technological change, Labour and Automation Bulletin No. 2	549	Liford, A. Differential-pressure flowmeters (Survey 36)	527	Taylor, D. Review of British Standard 204: 1960. Glossary of terms used in telecommunication (including radio) and electronics. Supplement No. 2 Semiconductors and semiconductor devices	281
Freeman, E. A. Review of Analysis and design of transistor circuits by L. G. Cowles	608	Lloyd, K. (see Ramshaw)		Tichenor, G. H. Revival of the dismal decade	142
Freeman, E. A. and Karakey, M. R. A voltage-controlled variable-frequency signal source for use in adaptive control systems	296	Loving, W. F. Review of Electrical phenomena in gases by R. Papoula	211	—, Frequency response of second-order linear systems with phase-advance signal shaping	241
Frewer, R. A. Review of Current transformers. B.S. 3938: 1965, and Voltage transformers B.S. 2941: 1965	389	Macclaren, A. P. Review of Aerospace ranges: instrumentation by Joseph J. Scavullo and Frederick J. Paul	211	Towill, D. R. Performance advantages of certain non-linear servo-mechanisms	45
Fuller, R. A. Control in ships and shipbuilding	294	Mayne, David, Review of Optimal control by Michael Athans and Peter L. Fall	659	—, Review of Electromechanical control systems and devices by Eugene B. Canfield	108
Garner, K. C. Review of Handbook of operational amplifier applications	108	McMillan, J. Five years in the doldrums	512	—, Review of Synchro engineering handbook by A. R. Upson and J. H. Batchelor	659
—, Review of Handbook of electronic circuits edited by R. Feinberg	333	Macmillan, R. H. The Motor Industry's need for control engineers	87	Vaughan, R. I. Review of Cush—a computer programme for the steady state hydraulic analysis of steam generating reactor systems by W. R. Cushing and M. C. Ingram	608
Gateshouse, J. S. Optimization in the presence of constraints	355	McPherson, G. D. Review of An assessment of reactor safety modelling techniques based on the accident to the SL-1 boiling water reactor by G. R. Warren and T. W. Rice	108	Villiers, R. A. Draw courage from a data bank	560
Gill, K. F. and Schwarzenbach, J. A theoretical look at the use of functional non-linearities in a gas turbine control system	405, 531	Mills, J. The measurement of amplitude probability density	176	Walker, B. S. Review of Switching theory. Volume II: Sequential circuits and machines by Raymond E. Miller	500
Girling, B. Review of Fundamental analogue techniques by R. J. A. Paul	108	Morris, J. Simple derivation of Routh's stability criteria	358	Walker, F. (see Wilson)	
—, Review of Programming games and transportation networks by Claude Berge and A. Ghoulia-Houri	210	Morton, G. Review of Econometrics by G. Tinter	389	Wall, J. E. National Growth—the roll of government and industry	453
—, Review of Computer programming techniques by Theodore G. Scott	261	Muller, E. Review of Cast Iron butterfly valves for general purposes B.S. 3952: 1965	499	Wallace, R. J. Review of Electronic designer's handbook by T. K. Hemingway	607
—, Review of Error in digital computation. Volume II edited by L. B. Rall	499	Munday, C. W. Review of The theoretical significance of experimental relativity by R. H. Dicke	211	—, Review of Transistor circuit analysis and design by F. C. Fitchin	608
Godfrey, K. R. Theory and application of pseudo-random sequences	305	Neslin, P. An algebraic method for the design of linear servo-systems	475, 538	Waller, D. M. Spot and seam weld quality monitor	419
Goodman, Landon L. Review of The computer and your company	58	—, Review of Time-domain analysis of control systems by R. C. Dorf	389	Watts, J. L. Heating and life of electric motors	586
—, Review of Removing the obstacles to automation. Report of a conference held under the auspices of Foundation on Automation and employment by Margaret Stewart	107	—, Review of Les génératrices amplificateurs by W. Pelczewski	549	Webb, C. R. (see Burrows)	
Gosling, W. Review of Systems engineering tools by Harold Chesnut	210	Nutting, D. C. Review of The social and economic consequences of automation. Report of a conference held on 9th–12th July 1965	107	Westcott, J. H. Report on Ifac 66	401
Graneek, M. Review of Computer typesetting—experiments and prospects by Michael P. Barnett	498	—, Review of I.E.A. Year Book 1966	398	—, Review of The most active zone encoder for multiparameter analysis by G. C. Best, S. A. Hickman, I. N. Hooton and G. M. Prior	332
Green, W. L. Review of Specification for cast iron parallel slide valves for general purposes B.S. 3948	549	Ogilvy, H. H. Automatic train control	231, 309, 362	—, Review of Advances in automatic control	390
Grensted, P. E. W. Review of An introduction to dynamic analysis and automatic control by P. O. A. L. Davies	499	Paul, R. J. A. Two-port network representations of d.c. electromechanical transducers	37, 93, 401	Wilkes, M. V. Review of Automatic digital calculators by Andrew D. Booth and Kathleen H. V. Booth	332
Griffin, A. W. J. (see Ramshaw)		—, Report on Ifac 66	401	Wilkinson, H. Review of Materials handling in industry	549
Griffin, Antony The technique of optimization	252	—, General-purpose analogue computers (Survey 37)	644	Williams, B. J. The advantages of z-transforms in system compensation	34
Hanworth, Lord The spreading tentacles of the computer	287	Pearson, E. B. Review of 'Gyros' symposium	161	Williams, J. C. Review of Standard motor dimensions in the United Kingdom and abroad	549
Haworth, C. P. Report on Ifac 66	401	Poole, L. G. Review of Test facilities in the United Kingdom. Environment, quality, reliability, approval	499	Wilson, D. R. and Walker, F. Design of switched networks for a.c. servo compensation	299, 370
Head, J. W. 'Servo-pulses'	187, 237	Priban, I. P. Report on Ifac 66	401	Woffendale, E. Review of The thyristor and its application by A. W. J. Griffin and R. S. Ramshaw	499
—, Review of Non-linearity in audio amplifiers	107	Pucknell, D. A. Review of Fundamentals of semiconductor devices by Joseph Lindmayer and Charles Y. Wrigley	107	Woodford, W. F. S. Review of Developing a tough-minded climate by J. D. Batten	58
Healey, A. J. Effect of oil inertia on resonant frequency of hydraulic drives	181	—, Review of Basic computer programming by Theodore G. Scott	332	Worth, T. B. Sustain the rate of growth	25
—, Some aspects and problems of the choice of a hydraulic servo-motor	479	Ramshaw, R. S., Griffin, A. W. J. and Lloyd, K. A brushless adjustable-speed motor for extreme environments	40	—, Review of Recommendations for the guarding of vacuum forming machines and Recommendations for the guarding of blow moulding machines	281
Healey, Martin, Review of Valves for the control of fluids	659	Rawlings, T. D. Application of the dry-reed switch to control modules	518	Young, J. F. Determination of transfer function coefficients	246
Hindmarsh, J. Review of Electronically controlled adjustable speed drive equipment	390	Reid, Karl N. Jr. (see Shearer)		—, Review of Linear sequential switching circuits: selected technical papers edited by William H. Kautz	332
Hora, Oldrich Excitation control of large synchronous generators	480	Ring, N. D. Control of artificial limbs	183		
Howard, R. J. F. Statistics, manpower, and the true cost of control	223	Roberts, D. H. Review of Dimensions of semiconductor devices. B.S. 3934: 1965	389		
Howl, J. M. Review of The theory of stochastic processes by D. R. Cox and H. D. Miller	390	Rosenbrock, H. H. Review of Nodes and weights of quadrature formulas by A. D. Kronrod	281		
Jeffé, B. W. A common font for optically read documents	538	—, Review of Fili 3: A digital computer code for the solution of sets of first-order			

498  
138  
550  
807

498

162

01,  
857  
401  
133

372  
165

549

498

807

808  
829

281  
142

499

241

45

108

659

808  
560

500

453

607

808

419

586

401

332  
390

332

549

34

549

370

499

58,  
25

281

246

332

Accelerometer  
Activator  
Actuator  
Actuator  
—, elec  
—, hyd  
—, light  
—, line  
—, pne  
—, min  
—, rota  
Ada in H  
A.E.I.  
Aircraft  
Air-filter  
Airmec  
Alarm and  
Alarm/co  
Alarm tes  
Analog  
Analog  
analog  
Analog  
—, car  
—, hyd  
—, liqu  
—, sul  
—, tran  
—, wa  
Assembl  
Automat

B.C.S. sy  
B.P. Got  
Backlash  
compe  
Batching  
Beverco  
Binary-d  
Boilers, a  
Books, a  
Bore/m  
Brakes a  
Bridge, l  
balance  
Bridges  
British C

C.E.G.B.  
—, Fa  
—, Pe  
—, We  
C.R.T., E  
Calibrati  
contro  
Calibrate  
Capacite  
Capacite  
Car asse  
Card res  
Cargo-tr  
Cartogra  
Cavitation  
Character  
Chemica  
Chilbol  
Chromat  
City Uni  
Classifie  
Clutches  
Clutches  
Communi  
contac  
Comput  
Comput  
Comput  
Comput  
Comput

Comput  
Comput  
Comput  
Comput  
Comput  
E.-A.  
Comput  
useful  
Comput  
Comput  
Comput  
Comput  
—, CI  
—, AD  
—, EA  
—, EA



# INDEX TO VOLUME ELEVEN

## TITLE INDEX

### A

Accelerometers	98, 145
Activation analysis	19
Actuator in a feedback system, Electrostatic	293
Actuators	
—, electric valve	318
—, hydraulic quadrant operator	50
—, lightweight	100
—, linear electric	420, 474
—, pneumatic	50
—, minimal-leakage vane-type hydraulic	286
—, rotary valve	317
Aids in H.M. Ships, Ferranti	154
A.E.I.	470, 448, 517, 560
Aircraft and adaptive control	110, 125, 178, 232
Air-filters, Automatic drain mechanism for	388
Airmec—A.E.I.	470
Alarm annunciator	371
Alarm/controller, Trip-level	375
Alarm tachometer	96
Analogue computing, A.I.C.A. congress on	633
Analogue computer control of spindle-speed	213
Analogue computers—see Computers, analogue	
Analogue-digital conversion	44, 202, 359
Analysers	
—, carbon-in-steel	255
—, hydrogen-in-steel	264
—, liquid-stream	268
—, sulphur-dioxide	99
—, transient	476
—, waste product	419
Assembly, Automatic	114
Automata	303

### B

B.C.S. symposium on logic design	479
B.P. Gothenburg	63
Backlash, Saturating feedback elements can compensate for	390
Batching at provender mill, Auto-	5
Bevercootes colliery, Wagon-filling at	63
Binary-decimal converter	45
Boilers, Control of large oil-fired	576
Books, see Reviews, Book	
Bore/miller, Twin-table	52
Brakes and clutches	147, 586
Bridge, Logic circuits for a continuously self-balancing transformer-ratio a.c.	500
Bridges	319, 420
British Computer Society	479, 517

### C

C.E.G.B. power stations	
—, Fawley	104, 576
—, Pembroke	104, 576
—, West Thurrock	216
C.R.T., Electrostatically focused ceramic	49
Calibration of servo-mechanical process control instruments, Automatic	282, 351, 399
Calibrator, Instrument	523
Capacitance probes	420
Capacitance transducer	522
Car assembly plant automation	6, 484, 541
Card readers for System 4	141
Cargo-transfer at sea, Automatic	106
Cartography, Automated	235
Cavitation in hot-water control valves	194
Character recognition, Optical	24, 328
Chemical plant, Automation in design of	275
Chilbolton, computer-programmed aerial	273
Chromatographic equipment, Gas	423
City University, Hybrid system for	7
Classifier (statistical)	521
Clutches, Instrument	53
Clutches, Brakes and	147
Clutches, Servo-component	586
Commutation, Thyristor-assisted sliding-contact	286
Computer-aided control for dyeing process	59
Computer-aided ship design	7
Computer, Aircraft energy management	108
Computer/calculators, Desk-top	93
Computer control	37, 89, 104, 211, 212, 269, 313, 560
Computer control of blast-furnace	37, 89
Computer control, Ministry support for	211
Computer-controlled chromatography	212
Computer-controlled U.S. strip mill	212
Computer for B.P. Bavaria and Rotterdam, E.-A. Arch	154
Computer in critical-path planning, The usefulness of an immediate-access	378
Computer-language, Half-way-house	59
Computer market surveyed	280
Computer time-sharing	519
Computers, analogue	214
—, CI 5000 (R.A.E.)	215
—, AD-4 hybrid	202
—, E.A.L. 690 hybrid	7
—, E.A.L. 880 (B.A.C.)	214

—, E.A.L. Hybrid-48	413
—, E.A.L. TR20R	413
—, Hitachi	45
Computers, digital	
—, A.E.I. 4060	580
—, B.I.T. series 480	93
—, Control Data 3500	566
—, DCC-2 (Hawker Siddeley Dynamics)	250
—, Digiac (Digico)	265
—, Digital Equipment PDP-8/1	563
—, Elliott 4140 and 4150	260
—, Elliott Arch 102	104, 405
—, Elliott Arch 1000	313
—, Elliott Arch 2000	415
—, Elliott Arch 9000	313, 517
—, Elliott field artillery	211
—, E.A.L. 640	413
—, English Electric KDF6	415
—, English Electric KDF7	104
—, English Electric M21-40	519
—, Ferranti Argus 400/500	60, 313, 468
—, Ferranti Poseidon	154
—, G.E.C. S-Two	43
—, G.E.C. S-Five	141
—, G.E.C. S-Seven	44
—, Honeywell 125/1250	564
—, Honeywell DDP416/516	314
—, I.B.M. 1800	313
—, I.C.T. 1900	203
—, I.C.T. 1906A	564
—, M.E.L. teaching	43
—, Wang 4000	360
Computers for U.S. colleges, multi-access	9
Computers in the R.A.O.C.	6
Concord	8, 104, 155, 312, 439
Conductivity bridge	99
Conductivity transmitter	317
Continuous casting of steel	433
Controller, Electronic indicating-	45
Controller, Indicator-	95
Controller, M.C. relay	46
Controller, Portable furnace-	96
Controller, Water softener	95
Converter, Square-law	374
Conveyor systems, diverter for	474
Counters	94, 147, 148, 203, 252, 268, 376, 418, 419, 424, 523
Cranfield conference, Fluidics—the second	111
Cranfield Institute of Technology	386
Cranes, Remote control for overhead	475
Current controller, A.C.	143
Current-driven chart recorder	49
Current monitor	95

### D

D.C. converters, Choice of magnetic cores for	76
D.D.C.	104, 325, 333, 428, 508, 547, 593
D.D.C. applied to soaking pits	325
D.D.C. for Fawley	104
David Brown's gear-box test rig	61
Data acquisition	263

### Data and method sheet

Quick determination of inverse Laplace transform of $(cs^2+bs+a)/[s(c^2s^2+b^2s+a^2)]$ by G. L. Labbe and J. A. van Baelen (Data sheet 38)	545
Data loggers	251
Data transmission	315
Defair '67	515
Delay lines	371, 523
Depth recorder	49
Describing functions, How to find statistical	33
Design, Computers improve electrical machine	602
Design of chemical plant, Automation in	275
Detector, Photo-electric	47
Differential switch, Adjustable	539
Digital control of aircraft engines	312
Digital instruments	375
Digital-analogue converter	201, 202
Direct digital control—see also D.D.C.	
Direct digital control, Electropneumatic converter for	333
Direct digital control of chemical processes	428, 508, 547, 593
Displacement converter	266
Displacements, Transducers for large	47
Display/control assembly, In-line	376
Display system	423
Displays, Miniature	267
Dissolved solids meter	52
Driverless trains in U.S. experiment	104
Drum storage system	473
Dyeing process, Computer-aided control for	59
Dye-cycle controller	316

### E

E.-A. acquired by English Electric	367
E.-A. agreement with C.G.A. (France)	580
E.D.P., N.C.R.'s plans for	213
Eldo	108
Electronically governed turbine at West Thurrock	216

Electrostatic actuator in feedback system	293
Encoders	44, 205, 283
English Electric takes over Elliott	367
Euro	109
Esso, Fawley, power station, Kent controls for	156
Estimator, Electronic	373
Eurocontrol a.t.c. simulator	122
Extremum controller that does not hunt	71
Extremum-seeking regulator with feedback loop	600
Eye and head movement, Control by	31

### F

F.E.T. switch	53
F.E.T. tester	203
Feedforward, Non-linear	25
Filter module, Tunable	374
First-harmonic approximation in system parameter space	445, 505
Flow, A strain gauge 'rosette' for open channel	488
Flow controller	46
Flow-converter, Magnetic	144
Flow measurement in the Concord, Fuel-	8
Flow oil meter, Low-	418
Flow recorder, Effluent	266
Flowmeter, Indicating	145
Flowmeter, Non-restricting gas	144
Flowmeters	31, 47, 97, 144, 145, 317, 373, 421
Flowmeters, Mechanical square-rooting devices for differential-pressure	31
Fluidic flight control	414
Fluid logic	388
Fluid-transfer devices, Medical	590
Fluidic control for capstan lathe	567
Fluidic push button	374
Fluidics	62, 109, 111, 170, 202, 264, 368, 374, 414, 564
Fluidics aids fluidics production	62
Fluidics applied	170
Fluidics at Frigidaire	109
Fluidics devices	202, 264
Fluidics—the second Cranfield conference	111
Force transducer, Load cell/	98
Forging press under program control	580
Fortran compiler for Elliott 903	141
Foundry, Automatic batch-weighing at Chrysler's new	280
Foundry, How to automate your	14
Frequency-doubler—phase-shifter	524
Frequency-response analyser, Automatic	193
Frequency-response of a sample-and-hold unit	492
Fuel-flow measurement in the Concord	8
Function generators	520

### G

G.E.C. acquires A.E.I.	517, 560
G.E.C. Computers and Automation	163
Gas network, Six-computer control for	415
Gas shut-off device	96
Gas, Supergrid control for Scottish	5
Gauging equipment, Automatic	284
Gear-box test rig, David Brown's	61
Generator control, A.C.	47
Generator, Pulse	371
Generator, Square-wave	53
George Kent report	413

### H

Heat servo-motor	388
Human limbs, Electronic control of	551
Hybrid computers	7, 214
Hydraulic efficiency, Thermometric measurement of	453
Hydraulic intensifier	521
Hydraulic motor	521
Hydraulic program controller	32
Hydraulic pump/motor	473
Hygrometer, Multi-range	145

### I

I.E.E.E. International Convention, 1967	302
Ideas applied	
A minimal-leakage vane-type hydraulic actuator by E. E. Bass	286
A practical die-protection system by L. Lebar	581
A sensitive low-range force-current pressure transducer by E. F. Price and Margaret Chapman	128
A strain gauge 'rosette' for open channel flow by J. M. Townson	498
An improved method of measuring surface-quality optically	332
Automatic drain mechanism for compressed-air filters	389
'Computer speed' line printer	287
Control by eye and head movement	31
Differential switch with independently adjustable 'high' and 'low' set-points	539

Electropneumatic converter for direct digital control	333
Epicyclic gear with flexible planet-wheel bearing	169
Estimation of discharge energy in iron-cored electrical circuits for intrinsically safe designs	225
Fuel-cell transducer for furnace control	582
Heat servo-motor provides feedback in potentiometric instruments	388
High-speed paper-tape punch	540
Hydraulic program controller	32
Log compensation in temperature measurement	32
Mechanical square-rooting device for differential-pressure flowmeters	31
Micrometer using field-emission technique	225
Parallel-input recognition technique for linear patterns	168
Planar turbulence amplifiers	168
Servo-controlled prosthetic hand	226
Ship roll stabilizer	453
Simple tape-stepping mechanism	454
Stepping motor with closed-loop control	129
Thermometric measurement of hydraulic efficiency	453
Thyristor-assisted sliding-contact commutation	286
Weigh-beam balance with a controlled stepping-motor	332
Wide-range speed control and a.c. velocity	489
Identification in automatic control systems—a review of Ifac, Prague 1967	480
Ifac on terminology and symbols	8
Ifac, Prague 1967, Identification in automatic control systems	480
Image analyzer	99
Imperial College	336, 560
Indicating controller	95, 370
Indicator, Cold-cathode	252
Indicators, Digital	473
Indicator, Electroluminescent	252
Inertial navigation	108, 320, 403, 435
Infrared analysis, Cell for	51
Instrumentation: where are we going?	10
Integrated-circuit modules	372
Integrated circuits	43, 414
Intrinsically safe design	225

## K

Kalman filter technique for Sins recalibration	403
Kent to acquire Fielden	517
Keyboard switch	53

## L

Lagrangian equations when systems get complicated. It pays to derive t.f.s. by	386, 450
Lamps, Automatic photometer with digital recording for checking quality of	158
Landing gear control system	108
Laplace transform	545
Learning control systems	39
Letters to the editor, Writers of	
Adorian, Paul	58
Boardman, R. M.	412
Burn, George	412
Church, F.	152
Clausen, Hugh	412
Cool, J. C.	58
De Redder, M.	4
Duckenfield, M. J.	153
Eaglen, C. J.	311
Higham, J. D.	412
Hinton, J. R. B.	518
Lazenby, B. D.	58
Little, E. W. R.	310
Lee, W. T.	412
McGee, E.	412
Muller, E.	310
Murphy, A.	210
O'Sullivan, J.	412
Rance, T. H. N.	210
Shortland, M. G.	4
Steghart, F.	153
Thomas, P. A. V.	412
Thomson, F. P.	4
Webb, C. R.	310
Woodfield, M. N.	153
Young, C. P.	516

Level can be measured accurately with capacitance probes and a digital or an analogue computer, Powder or grain	334, 392
Level control	254
Level, detectors, Cryogenic	97
Level indicator/controller	143
Level measurement, Fluid	371
Level measuring systems	47
Level recorders, Metric a.-d.	255
Ljapunov functions, Modelling with	551
Light-operated switches	144

Light pen display (computer)	585
Lighting dimmer controls	418
Limit switches	98, 418
Lindsay refinery, Jiskoot blending system for	63
Line-fault tester	372
Linear movement digitizer	319
Linear patterns, Parallel-input recognition technique for	168
Load cells	98, 145, 256
Loader, Automatic boom	254
Logger, Sequential event	251
Logic and control modules	94
Logic-cards	142, 143
Logic circuits for a continuously self-balancing transformer-ratio a.c. bridge	500
Logic design, B.C.S. symposium on	479
Logic devices, multi-aperture	527
Logic elements, Potentialities of	321
Logic module, Schmitt trigger	418
Logic trainer, NAND module for	201
Logic Triac (thyristor)	523
Look at America	39, 87, 136, 192
	302, 359, 403, 462, 551, 602
Look at the Continent	37, 89, 135, 194,
	245, 303, 357, 405, 459, 553, 599
Looking ahead	2, 56, 102, 150, 208,
	258, 308, 384, 410, 466, 514, 558
Lower extremity control, Synthesis of	303

## M

M.C. instrument, Compact	252
Machine-tool analogue readout instrument	318
Magnetic cores for d.c. converters, Choice of	76
Magnetic indicator, Three position	50
Magnetic tape equipment	44, 45, 94, 201
Manipulator, Unimate	253
Manometer, Micro-	255
Mass spectrometer, Compact	267
Medical fluid-transfer devices	590
Melting-point apparatus	478
Memory disk	423
Memory modules, Glass digital	476
Metal industries, Thorn takes over	368
Meters, Multi-	53, 267, 474
Meters, Flatback panel	374
Microdensitometer, Recording	276
Microelectronics, S.T.C. and	280
Microfilm recorder and reader	202
Micrometer using field-emission	225
Millers, Automatic flute	52
Mimic diagram (mosaic)	520
Moisture-content measuring principle effective in all phases, Some applications of a	67
Molins System 24 (production machinery)	526
Monitoring power cables	6
Monochromator, X-ray focusing	474
Monolithic sense amplifier	94
Motor-generator, Damping	474
Motor-overheat control	48, 252
Motor, Position-control of a squirrel-cage induction	490
Motor-speed controllers	95, 264
Motor vehicle production, Automation in	484, 541
Motors	98, 205, 371, 374
Mullard Research Laboratories	367
Multi-access computers for U.S. colleges	9
Multi-aperture devices for logic applications	527
Multimeters	53, 267, 474

## N

N.P.L.	366
National Gas Turbine Establishment	439
Non-linear analysis, Example in	288
Non-linear control systems, Analysis of	297,
	347, 395, 455
Non-linear feedforward	25
Non-linear systems, Some solutions to	227
Numerical control	212, 266, 312, 418, 419

## O

On-line scheduling in the steel industry	261
Operational amplifier, I.C.	251
Operational amplifier, Differential	374
Operational amplifiers, Positive feedback raises open-loop gain of	164
Optical character recognition	24, 328
Optimal control for Trieste II	136
Optimal theory applied to a traffic control	87
Optimization, An adjoint technique for steady-state	247
Optimum control system theory	118, 187, 242
Oscillator, 10Hz to 1MHz digital	475
Oscillographs	97, 147
Oscilloscopes	204, 373, 422
Oxygen measurement with fuel cell	582

## P

Page printers	81
Papermaker, Thyristor-controlled	61
Paper-tape devices	44, 82, 540
Parallax-free meters	265
Park Gate Iron and Steel, Size-changing at	154
Parts feeder	254
Pattern recognition system, 'Alpha'	553
Peak selector memory	143
Pencil follower	50, 584
pH meters	52, 267, 472, 563
Phase-locked loop	339
Phosphorus filtration plant	5

Photocells, Resistive	477
Photoconductive cell-lamp	204
Photo-electric detector	47
Photometer with digital recording for checking lamps, Automatic	158, 236
Photo-sensitive semiconductors	522
Physics Exhibition	198
Pick-off	36, 75, 134, 163, 241,
	292, 356, 398, 458, 499, 534, 585

Piezo-electric transducer amplifier	48
Plessey, Computer-controlled testing at	211
Plessey five-year plan, U.S.S.R.	157
Plotter, digital data	315
Pneumatic cylinders, Positioner-controlled	50
Pneumatic components	315
Pneumatic logic simulator	245
Pneumatic regulator	316
Population register systems, Automation of	570
Position digitizer	145
Position indication, Precise	590
Position pick-off, Rotary	253
Position control of a squirrel-cage induction motor	490
Positioner-controlled pneumatic cylinders	50
Positive feedback raises open-loop gain of operational amplifiers	164
Potentiometer, Motor-driven	420
Potentiometric instruments, Heat servo-motor provides feedback in	388
Powder or grain level measured with capacitance probes and computer	334, 392
Power cables, Monitoring	6
Power controllers, A.C.	253
Power supply, D.C.-D.C. converter	94
Power supply, Solar cell	319
Power supplies, Programmable	373
Pressure controls, Differential-	96
Pressure indicators	318, 523
Pressure-operated mercury switch	53
Pressure regulator, Temperature/	254
Pressure switch	146
Pressure transducer, Differential-transformer	146
Pressure transducer, Pneumatic-valve	48
Pressure transducers, Sensitive low-range force-current	128
Printer/communications system, Desk top	251
Printer, 'Computer speed' line	287
Printer, Digital	142
Printer drive module	203
Printer, Line	142
Printer, Medium-speed	250
Process automation, I.Chem.E.—K.I.v.I. symposium on	
Process control instruments	375
Process control trainer	471
Process identification by analogue and hybrid computers, Cyclic adjustment of parameters in	405
Production control at Dudley Drop Forging	107
Production control program	250
Production machine	526
Program-controlled forging press	560
Program-controlled gas reforming plants	216
Program controller	32, 563
Program, Information-retrieval (I.C.T.)	94
Program, Production control (I.C.T. 1900)	250
Programmers, Drum	46
Programming, Matrix	371
Programming plugboard	95
Programming switch, Drum	95
Program-timer switch	46
Prosthesis	228
Protective systems, Reliability assessment of	495
Proximity detector	98
Proximity switch system	255
Punch/verifier, Adaptable	203
Punching device, Predetermined sequence	250
Pyrometer/temperature controller, I.-R.	204

## Q

Queen Elizabeth II, R.M.S. (Cunarder)	468
Queen Mary College	413

## R

R.A.E., Farnborough	366
R.A.O.C., Computers in the	6
Readers	141, 418, 419, 472
Readouts, Segmented digital	204
Recognition technique for linear patterns	168
Recorder attenuator, Galvanometer/	317
Recorders	
—, chart	524
—, current-driven chart	49
—, correlation	477
—, data	142
—, digital	422
—, digital tape	49
—, double-channel potentiometric	49
—, electron beam	423
—, electronic process	49
—, high-speed	472
—, incremental	421
—, light-spot follower	422
—, miniature	97
—, multi-channel pen	97
—, multi-channel trace	49
—, multi-point	49
—, portable	317
—, strip-chart	204
—, two-channel potentiometric	267



—, u.v.	267	Hersee, E. H. W. <i>A simple approach to electronic computers</i>	555	Probert, S. D. and Thomas, C. B. <i>The thermal conductivity of semiconductors at low temperatures</i>	197
—, x-y	372	Higman, B. A. <i>A comparative study of programming languages</i>	555	Pryce, D. G. (see Lewis, W. E.)	
Reed relays	54, 148, 206	Hooper, C. C. S. (see Tant)		Pugh, Emerson M. and Winslow, George H. <i>The analysis of physical measurements</i>	305
Reed switch, Dry-	96	Horabin, J. S. (see Lewis)		Reich, Herbert J., Skalnik, John G. and Krauss, Herbert L. <i>Theory and applications of active devices</i>	197
Reeds' Aylesford mills, Machine conversion at	426	Horvath, J. <i>Topological vector spaces and distributions</i>	463	Richards, R. K. <i>Electronic digital systems</i>	138
Relays	53, 205, 253, 423	Hsu, H. P. <i>Outline of Fourier analysis</i>	556	Robertson, D. C. <i>Project planning and control</i>	362
Reliability assessment of protective systems	495	Ivakhnenko, A. G. and Papa, V. G. <i>Cybernetic predictive filters</i>	138	Roche, N. H. (see Ledger)	
Remotely controlled cartridge-loading at I.C.I.	166	Jacobs, O. L. R. <i>An introduction to dynamic programming: the theory of multistage decision processes</i>	463	Roe, D. K. (see Fowler)	
Reperforator, Printing	142	James, Eleanor, M. (see Davies)		Salt, K. J. (see Adnams)	
Resistance calibration standards	419	Jenkins, B. D. <i>Introduction to instrument transformers</i>	464	Savas, E. S. <i>Computer control of industrial processes</i>	248
Resistance unit, Switched	374	Jones, E. D. and Baker (Mrs.) E. A. <i>A computer program (AFCA2) for the analyses of data from an automatic foil counter</i>	555	Schmidt, W. James (see Whitman)	
Reviews, Book—by authors' names		Jones, Malcolm M. (see Greenberger)		Schmookler, Jacob. <i>Invention and economic growth</i>	555
Abrahams, J. R. and Pridham, G. J. <i>Semiconductor circuits: worked examples</i>	306	Jones, Reginald L. and Trentin, H. George. <i>Budgeting: key to planning and control</i>	42	Schweppe, Earl J. (see Marcovitz)	
Adnams, D. J., Salt, K. J. and Wintle, C. A. <i>A multi-channel, fast scanning, recorder</i>	138	Juran, J. M. and Loudon, J. Keith. <i>The corporate director</i>	139	Seligman, B. B. <i>Most notorious victory: man in an age of automation</i>	361
Aharoni, Yair. <i>The foreign investment decision process</i>	92	Kaplan, W. <i>Introduction to analytic functions</i>	248	Siegel, Stephanie (see Kirk Rankin)	
Anderson, A. H. <i>An electronic cash and credit system</i>	512	Kirk Rankin III, B., Siegel, Stephanie, McClelland, Ann and Tan, J. L. <i>A grammar for component combination in Chinese characters</i>	464	Siemens, George. <i>History of the House of Siemens</i>	555
Anderson, Ruth, Marden, Ethel and Marron, Beatrice. <i>File organization for a large chemical information system</i>	91	Korfage, R. R. <i>Logic and algorithms: with applications to the computer, and information sciences</i>	464	Sippl, Charles J. <i>Computer dictionary and hand-book</i>	41
Arkadev, A. G., and Braverman, E. M. <i>Teaching computers to recognize patterns</i>	511	Kotz, Samuel. <i>Russian-English dictionary and reader in the cybernetic sciences</i>	361	Skalnik, John G. (see Reich)	
Atkinson, R. (see Stewart)		Krauss, Herbert L. (see Reich)		Smith, H. (see Draper)	
Awad, E. M. <i>Automatic data processing principles and procedures</i>	41	Kreider, D. L., Kuller, R. G., Ostberg, D. R. and Perkins, F. W. <i>An introduction to linear analysis</i>	196	Smith, Harold W. <i>Approximate analysis of randomly excited non-linear controls</i>	305
Baker, (Mrs.) E. A. (see Jones, E. D.)		Kuller, R. G. (see Kreider)		Smith, Ralph J. <i>Circuits, devices and systems</i>	248
Beer, Stafford. <i>Decision and control—the meaning of operational research and management cybernetics</i>	407	Kuntzmann, J. and Naslin, P. <i>Algèbre de Boole et machines logiques</i>	306	Spencer, K. J. (see Moore, C. K.)	
Berkeley, Edmund C. and Bobrow, Daniel G. <i>The programming language Lisp: its operation and applications</i>	42	Kuo, Franklin F. <i>Network analysis and synthesis</i>	91	Stewart, C. A. and Atkinson, R. <i>Basic analogue computer techniques</i>	195
Bobrow, Daniel G. (see Berkeley)		Lamb, D. A. A. <i>Logic handbook</i>	42	Stieber, Jack. <i>Employment problems of automation and advanced technology—an international perspective</i>	41
Booth, A. D. <i>Numerical methods</i>	195	Lawden, D. F. <i>An introduction to tensor calculus and relativity</i>	408	Stokes, Paul M. <i>Total job training</i>	42
Brailsford, F. <i>Physical principles of magnetism</i>	42	Lazarus, D. (see de Ward)		Takai, H. <i>Theory of automatic control</i>	408
Braverman, E. M. (see Arkadev)		Leadbetter, M. R. (see Cramer)		Tan, J. L. (see Kirk Rankin)	
Brosan, G. S. and Hayden, J. T. <i>Advanced electrical power and machines</i>	197	Ledger, A. S. P. and Roche, N. H. <i>Fundamental electronics</i>	464	Tant, M. J. and Hooper, C. C. S. <i>It's logic that counts</i>	41
Bulgakov, A. A. <i>Electronic automatic control devices</i>	464	Lewis, B. N., Horabin, J. S. and Gane, C. P. <i>Flow charts, logical trees and algorithms for rules and regulations</i>	512	Thaler, George J. and Wilcox, Milton L. <i>Electric machines. Dynamics and steady state</i>	42
Bull, C. S. <i>Fluctuations of stationary and non-stationary electron-currents</i>	197	Lewis, W. E. and Pryce, D. G. <i>The application of matrix theory to electrical engineering</i>	139	Thomas, C. B. (see Probert)	
Chubb, B. A. <i>Modern analytical design of instrument servomechanisms</i>	511	Lockyer, K. G. <i>Critical path analysis—problems and solutions</i>	139	Trentin, H. George (see Jones, R. L.)	
Cooper, A. G. (see Maple)		—, <i>An introduction to critical path analysis</i>	511	Tyler, R. D. and Cooper, B. J. <i>Curing instability in a rotating face seal control system: a case history of the application of control techniques in mechanical engineering</i>	91
Cooper, B. J. (see Tyler)		Loudon, J. Keith (see Juran)		Vitkovitch, D. <i>Field analysis: experimental and computational methods</i>	196
Cooper, V. <i>Fordham. Safety code for the use of electricity in industry</i>	91	McCalla, T. R. <i>Introduction to numerical methods and Fortran programming</i>	555	Volguine, L. N. <i>Programmation des calculatrices numériques de commande</i>	129
Cramer, H. and Leadbetter, M. R. <i>Stationary and related stochastic processes</i>	512	McClelland, Ann (see Kirk Rankin)		Ward, H. de and Lazarus, D. <i>Modern electronics</i>	140
Cullen, C. G. <i>Matrices and linear transformations</i>	407	McKenzie, A. <i>Analogue computers and applications—a symposium held at Paisley College of Technology</i>	407	Walsh, Michael J. (see Fogel)	
Davies, T. V. and James, Eleanor M. <i>Non-linear differential equations</i>	139	Maple, B. J. and Cooper, A. G. <i>Standard relay modules for safety and control circuits</i>	196	Walton, A. J. <i>Sonic methods for P.F.R. channel blockage detection</i>	197
Davison, J. F. <i>Programming for digital computers—using computers to advantage (2nd ed.)</i>	407	Marcovitz, Alan B. and Schweppe, Earl J. <i>An introduction to algorithmic methods using the Mad language</i>	306	Whitman, Edmund S. and Schmidt, W. James. <i>Plant relocation</i>	91
Déri, Marta. <i>Ferroelectric ceramics</i>	92	Marden, Ethel (see Anderson)		Wilcox, Milton L. (see Thaler)	
DeRoy, B. E. <i>Automatic control theory</i>	464	Marron, Beatrice (see Anderson)		Wilson, H. S. <i>Instrument maintenance management, vol. 1</i>	362
Dineley, J. L. and Preece, C. A. <i>A manual of Kaldas programming</i>	463	Mauders, E. J. <i>A description of the Elan computer code</i>	42	Wintle, C. A. (see Adnams)	
Douglas, A. <i>A special purpose least squares program</i>	196	Miller, W. N. <i>A survey of the theoretical behaviour of queues</i>	196	Ziobro, Henry R. (see Finley)	
Draper, N. R. and Smith, H. <i>Applied regression analysis</i>	196	Milsons, P. R. <i>A Fortran programme for determining frequency responses for linear systems with time delays</i>	464		
Dummer, G. W. A. <i>Microelectronics</i>	512	Moon, B. A. M. <i>Computer programming for science and engineering</i>	139	Reviews, Book—by titles	
Ekman, T. and Fröberg, C. E. <i>An introduction to Algol programming</i>	41	Moore, C. K. and Spencer, K. J. <i>Electronics. A bibliographical guide 2</i>	139	A comparative study of programming languages by B. Higman	555
Finley, Robert E. and Ziobro, Henry R. <i>The manufacturing man and his job</i>	140	Moore, Ramon E. <i>Interval analysis</i>	196	A computer program (AFCA2) for the analyses of data from an automatic foil-counter by E. D. Jones and Mrs. E. A. Baker	555
Fisher, J. E. and Gatland, H. B. <i>Electronics—from theory into practice</i>	305	Morris, James H. Jr (see Greenberger)		A description of the Elan computer code by E. J. Mauders	42
Fogel, Lawrence J., Owens, A. J. and Walsh, M. J. <i>Artificial intelligence through simulated evolution</i>	139	Murphy, G. J. <i>Basic automatic control theory</i>	195	A Fortran programme for determining frequency responses for linear systems with time delays by P. R. Milsons	464
Formby, G. David. <i>Concatenated codes</i>	511	Murray-Shelley, Richard. <i>Teach yourself computer programming</i>	555	A grammar for component combination in Chinese characters by B. Kirk Rankin III, Stephanie Siegel, Ann McClelland and J. L. Tan	464
Foster, J. M. <i>List processing</i>	555	Naslin, P. (see Kuntzmann)		A manual of Kaldas programming by J. L. Dineley and C. Preece	463
Fowler, L., Harmon, R. G. and Roe, D. K. <i>Analysis instrumentation</i>	556	Ness, David N. (see Greenberger)		A multi-channel, fast scanning, recorder by D. J. Adnams, K. J. Salt and C. A. Wintle	138
Franklin, E. <i>The feasibility of optical writing and reading on magnetic and other recording media</i>	463	O'Connor, T. F. <i>Profitable productivity</i>	249	A simple approach to electronic computers by E. H. W. Hersee	555
Fraunberger, F. <i>Regelungstechnik: Grundlagen und Anwendungen</i>	556	Oldenburger, Rufus. <i>Optimal and self-optimizing control</i>	138	A special purpose least squares program by A. Douglas	196
Fröberg, C. E. (see Ekman)		Olsen, H. F. <i>Solutions of engineering problems by dynamical analogies</i>	407	A survey of the theoretical behaviour of queues by W. N. Miller	196
Gane, C. P. (see Lewis, B. N.)		Ostberg, D. R. (see Kreider)		A time to train: an account of experience gained by R.T.B. at its Spencer works	464
Gatland, H. B. (see Fisher)		Owens, Alvin J. (see Fogel)		An electronic cash and credit system by A. H. Anderson	512
Giles, A. F. <i>Electronic sensing devices</i>	138	Papa, V. G. (see Ivakhnenko)		An introduction to Algol programming by T. Ekman and C. E. Fröberg	41
Golomb, S. W. <i>Shift register sequences</i>	512	Papetti, S. <i>Personnel problems in data processing</i>	463	An introduction to algorithmic methods using the Mad language by Alan B. Marcovitz and Earl J. Schweppe	306
Gray, D. <i>Centralized and automatic controls in ships</i>	463	Perkins, F. W. (see Kreider)		An introduction to critical path analysis by K. G. Lockyer	511
Greenberger, Martin, Jones, M. M., Morris, J. H., Jr. and Ness, David N. <i>On-line computation and simulation: the OPS-3 system</i>	91	Petrovskiy, I. G. <i>Partial differential equations explained</i>	407		
Gros, E. <i>Russian books on automation and computers</i>	306	Pitman, R. J. G. <i>Automatic control systems explained</i>	195		
Guy, J. J. <i>Solutions of problems in automatic control</i>	195	Preece, C. (see Dineley)			
Hammond, P. H. <i>Theory of self-adaptive control systems</i>	306	Pridman, G. J. (see Abrahams)			
Harmon, R. G. (see Fowler)					
Harris, Bernard. <i>Theory of probability</i>	248				
Harris, J. H. <i>The lubrication of roller bearings</i>	511				
Hayden, J. T. (see Brosan)					



An introduction to dynamic programming: the theory of the multistage decision processes by O. L. R. Jacobs	463	Introduction to numerical methods and Fortran programming by T. R. McCalla	555	Theory of automatic control by H. Takai	408
An introduction to linear analysis by D. L. Kreider, R. G. Kuller, D. R. Ostberg and F. W. Perkins	196	Invention and economic growth by Jacob Schmiedler	555	Theory of probability by Bernard Harris	248
An introduction to tensor calculus and relativity by D. F. Lawden	408	It's logic that counts by M. T. Tant and C. C. S. Hooper	41	Theory of self-adaptive control systems edited by P. H. Hammond	308
Algebre de Boole et machines logiques by J. Kuntzmann and P. Naslin	306	Letter symbols, signs and abbreviations. B.S. 1991: 1967	511	Topological vector spaces and distribution (Vol. 7) by John Horvath	463
Analogue computers and applications—a symposium held at Paisley College of Technology by A. McKenzie	407	List processing by J. M. Foster	555	Total job training by Paul M. Stokes	42
Analysis instrumentation edited by L. Fowler, R. G. Harmon and D. K. Roe	556	Logic and algorithms: with applications to the computer, and information sciences by R. R. Korfhage	464	X-Ray fluorescent spectroscopy	249
Applied regression analysis by N. R. Draper and H. Smith	196	Logic handbook by D. A. Lamb	42	Rolling bearings, Control in manufacture of	441
Approximate analysis of randomly excited non-linear controls by Harold W. Smith	305	Matrices and linear transformations by C. G. Cullen	407	Rotary position pick-off	253
Artificial intelligence through simulated evolution by Lawrence J. Fogel, Alvin J. Owens and Michael J. Walsh	139	Metrication in the United Kingdom	306	Rotation-sensing switch	204
Atlas computer laboratory—some aspects of current operations and research	305	Microelectronics by G. W. A. Dummer	512		
Automatic control systems explained by R. J. G. Fitmen	195	Modern analytical design of instrument servo-mechanisms by B. A. Chubb	511		
Automatic control theory by B. E. DeRoy	464	Modern electronics by H. de Waard and D. Lazarus	140		
Automatic data processing principles and procedures by E. M. Awad	41	Most notorious victory: man in an age of automation by B. B. Seligman	361		
Advanced electrical power and machines by G. S. Brogan and J. T. Hayden	197	Network analysis and synthesis by Franklin F. Kuo	91		
Basic analogue computer techniques by C. A. Stewart and R. Atkinson	195	Non-linear differential equations by T. V. Davies and Eleanor M. James	139		
Basic automatic control theory by G. J. Murphy	195	Numerical control: its application in manufacturing	556		
British instruments directory and data handbook, 7th edition	511	Numerical methods by A. D. Booth	195		
British Standard 3939: 1966 Graphical symbols for electrical power, telecommunications and electronics diagrams	91	On-line computation and simulation: the OPS-3 system by Martin Greenberger, Malcolm M. Jones, James H. Morris Jr and David N. Ness	91		
Budgeting: key to planning and control by Reginald L. Jones and H. George Trentin	42	Optimal and self-optimizing control edited by Rufus Oldenburger	138		
Centralize, and automatic controls in ships by D. Gray	363	Outline of Fourier analysis by H. P. Hsu	556		
Character recognition handbook 1967	305	Partial differential equations by I. G. Petrovsky	407		
Circuits, devices and systems by Ralph J. Smith	248	Personnel problems in data processing by S. Popetti	463		
Computer control of industrial processes by E. S. Sevas	248	Physical principles of magnetism by F. Brailford	42		
Computer courses 1967	556	Plant relocation by Edmund S. Whitman and W. James Schmidt	91		
Computer dictionary and hand-book by Charles J. Sippl	41	Proceedings of the symposium on system theory, New York, April 20-22, 1965	138		
Computer programming for science and engineering by B. A. M. Moon	139	Proceedings of the 1966 Fluid Power International conference	511		
Concatenated codes by G. David Formby, Jr	511	Profitable productivity by T. F. O'Connor	249		
Critical path analysis—problems and solutions by K. G. Lockyer	139	Programmation des calculatrices numériques de commande by L. N. Volguine	139		
Curing instability in a rotating face seal control system: a case history of the application of control techniques in mechanical engineering by R. D. Tyler and B. J. Cooper	91	Programming for digital computers—using computers to advantage (2nd ed.) by J. F. Davison	407		
Cybernetic predictive filters by A. G. Ivakhnenko and V. G. Pap	138	Project planning and control by D. C. Robertson	362		
Decision and control—the meaning of operational research and management cybernetics by Stafford Beer	407	Regelungstechnik: Grundlagen und Anwendungen by F. Fraunberger	556		
Economic aspects of numerically-controlled machine tools	463	Russian books on automation and computers compiled by E. Gros	306		
Electric machines. Dynamics and steady state by George J. Thaler and Milton L. Wilcox	42	Russian-English dictionary and reader in the cybernetic sciences by Samuel Kotz	361		
Electrical engineering in the metal industries	361	Safety code for the use of electricity in industry by W. Fordham Cooper	91		
Electronic automatic control devices by A. A. Bulgakov	464	Semiconductor circuits: worked examples by J. R. Abrahams and G. J. Pridham	306		
Electronic digital systems by R. K. Richards	138	Shift register sequences by S. W. Golomb	512		
Electronic sensing devices by A. F. Giles	138	Simulation of engineering problems by dynamical analogies by H. F. Olsen	407		
Electronics. A bibliographical Guide 2 by C. K. Moore and K. J. Spencer	139	Solutions of problems in automatic control by J. J. Guy	195		
Electronics—from theory into practice by J. E. Fisher and H. B. Gattland	305	Some problems of the growing firm	42		
Employment problems of automation and advanced technology—an international perspective edited by Jack Stieber	41	Sonic methods for P.F.R. channel blockage detection by A. J. Walton	197		
Ergonomics and safety in motor car design	512	Standard relay modules for safety and control circuits by B. J. Maple and A. G. Cooper	196		
Ferroelectric ceramics by Marta Déri	92	Stationary and related stochastic processes by Harald Cramer and M. R. Leadbetter	512		
Field analysis: experimental and computational methods edited by D. Vitkovitch	196	Teach yourself computer programming by Richard Murray-Shelley	555		
File organization for a large chemical information system by Ruth Anderson, Ethel Marden and Beatrice Marron	91	Teaching computers to recognize patterns by A. G. Arkadev and E. M. Braverman	511		
Flow charts, logical trees and algorithms for rules and regulations by B. N. Lewis, J. S. Horabin and C. P. Gane	512	Test facilities in the U.K.	91		
Fluctuations of stationary and non-stationary electron currents by C. S. Bull	197	The analysis of physical measurements by Emerson M. Pugh and George H. Winslow	305		
Fundamental electronics by A. S. P. Ledger and N. H. Roche	464	The application of matrix theory to electrical engineering by W. E. Lewis and D. G. Pryce	139		
History of the house of Siemens by Georg Siemens	555	The corporate director by J. M. Juran and J. Keith Loudon	139		
Instrument maintenance management, vol 1 edited by H. S. Wilson	362	The feasibility of optical writing and reading on magnetic and other recording media by E. Franklin	483		
Instruments, electronics, automation year book and buyers guide	361	The foreign investment decision process by Yair Aharoni	92		
Interval analysis by Ramon E. Moore	196	The lubrication of roller bearings by J. H. Harris	511		
Introduction to analytic functions by W. Kaplan	248	The manufacturing man and his job by Robert E. Finley and Henry R. Ziobro	140		
Introduction to instrument transformers by B. D. Jenkins	464	The programming language Lisp: its operation and applications edited by Edmund C. Berkeley and Daniel G. Bobrow	42		
		The thermal conductivity and semiconductors at low temperatures by S. D. Probert and C. B. Thomas	197		
		The use of S.I. units	511		
		Theory and applications of active devices by Herbert J. Reich, John G. Skalnik and Herbert L. Krauss	197		





— Review of Artificial intelligence through simulated evolution by Lawrence J. Fogel, Alvin J. Owens and Michael J. Walsh	139	—, Review of Theory of probability by Bernard Harris	248	Shortland, M. G. Review of Electrical engineering in the metal industries	301
—, Review of Approximate analysis of randomly excited non-linear controls by Harold W. Smith	305	Miller, N. Review of Sonic methods for P.F.R. channel blockage detection by A. J. Walton	197	Stones, R. Review of Invention and economic growth by Jacob Schmookler	555
—, Review of Teaching computers to recognize patterns by A. G. Arkadev and E. M. Braverman	511	Morris, D. J. Multi-aperture devices in special applications	527	Stanway, J. (see Shepherd)	
Hammond, P. H. (see Godfrey)		Muir, R. S. Review of British instruments directory and data handbook, 7th edition	511	Stearman, G. H. (see Blake)	
Harvey, W. H. G. Automation of popular register systems	570	Muller, E. Review of Analysis instrumentation edited by L. Fowler, R. G. Harmon and D. K. Roe	555	Stokes, Bernard Review of Employment problems of automation and advanced technology—an international perspective edited by Jack Stieber	41
Henwood, D. L. Review of On-line computation and simulation: the OPS-3 system by Martin Greenberger, Malcolm M. Jones, James H. Morris, Jr and David N. Ness	91	—, Review of X-Ray fluorescent spectroscopy	249	—, Review of Project planning and control by D. C. Robertson	362
Head, J. W. Review of Matrices and linear transformations by C. G. Cullen	407	Murthy, K. K. (see Douce)		—, Review of The manufacturing man and his job by Robert E. Finley and Henry R. Ziehn	140
—, Review of Outline of Fourier Analysis by H. P. Hsu	556	Nash, H. E. C. Automation—quo vadis?	411	Storey, C. Review of A special purpose least squares program by A. Douglas	196
Humphreys, A. L. C. Computers, mathematics and management	151	Newing, A. Review of Flow charts, logical trees and algorithms for rules and regulations by B. N. Lewis, J. S. Horabin and C. P. Gane	512	—, Review of Concatenated codes by G. David Formby	511
Hunter, J. J. Review of A multi-channel, fast scanning, recorder by D. J. Adams, K. J. Salt and C. A. Wintle	138	Ng, K. C. (see Douce)		—, Review of Introduction to numerical methods and Fortran programming by T. R. McCalla	555
Hunting, P. A sense of proportion in automation	565	Ng, K. C. Review of A grammar for component combination in Chinese characters by B. Kirk Rankin III, Stephanie Siegel, Ann McClelland and J. L. Tan	464	—, Review of Optimal and self-optimizing control edited by Rufus Oldenburger	138
Ivakhnenko, A. G. Design of an extremum controller that does not hunt	71	N-Negy, F. L. A novel electrostatic actuator in a direct feedback system	293	Streeter, J. J. Review of Some problems of the growing film	42
Jackson of Burnley, Lord. Review of History of the house of Siemens by Georg Siemens	554	Orloff, G. Improvements to medical fluid-transfer devices	590	Taylor, D. Review of A computer program (AFCA2) for the analyses of data from an automatic foil counter by E. D. Jones and Mrs E. A. Baker	555
James, Michael. Review of Automatic data processing principles and procedures by E. M. Awad	541	Outridge, F. D. Liaison between automotive industry and the Government	309	—, Review of Fundamental Electronics by A. S. P. Ledger and N. H. Roche	464
—, Review of Instruments, electronics, automation year book and buyers guide	361	Paul, R. J. A. Review of Analogue computers and applications—a symposium held at Paisley College of Technology by A. McKenzie	407	Tennant, P. F. D. A prod for productivity and exports	515
Jones, B. Review of British Standard 3939: 1966. Graphical symbols for electrical power, telecommunications and electronics diagrams	91	—, Review of Basic analogue computer techniques by C. A. Stewart and R. Atkinson	195	Thompson, A. Review of Computer control of industrial processes by E. S. Savas	248
Jones, Sir Henry. Taking orders from a computer	3	—, Review of Field analysis: experimental and computational methods edited by D. Vitkovich	196	Thompson, J. K. Review of Letter symbols, signs and abbreviations, B.S. 1991:1967	511
Jordan, J. R. Positive feedback raises open-loop gain of operational amplifiers	164	—, Review of Solution of engineering problems by dynamical analogies by H. F. Olsen	407	—, Review of The use of S.I. units	511
Karybakas, C. Saturating feedback elements can compensate for backlash	390	Petrovic, Radivoj (see Broide)		Towler, Frank H. Everybody is becoming more dependent on control	57
Keeble, W. R. Review of Test facilities in the U.K.	91	Pluck, M. R. Control of large oil-fired boilers	576	Townson, J. M. A strain gauge 'rosette' for open channel flow	488
Kirkby, N. S. Automatic control in the continuous casting of steel	433	Price, E. F. and Chapman, Margaret. A sensitive low-range force-current pressure transducer	128	Turkiya, G., Foord, T. R. and Langlands, R. C. Logic circuits for a continuously self-balancing transformer-ratio a.c. bridge	500
Kranias, B. W. Non-linear feedforward is an effective tool	25	Prusty, Sarbeshwar and Deekshatulu, B. L. Some solutions to non-linear systems	227	Waal, B. J. van der (see Gorcum)	
Labbe, G. L. and Beelen, J. A. van. Quick determination of inverse Laplace transform of $(cs^2+bs+a)/[s(c's^2+b's+a')]$ (Data & Method sheet 38)	545	R.J.F.H. Review of The corporate director by J. M. Juran and J. Keith Loudon	139	Wainwright, N. (see Beck)	
Lamb, C. St. John, Dunworth, A. and Walker, B. S. Digital switching for speed control of commutatorless a.c. motor	217	Railton, R. D. Review of Safety code for the use of electricity in industry by W. Fordham Cooper	91	Walker, B. S. B.C.S. symposium on logic design	479
Leber, L. A practical die-protection system	581	Ramshaw, R. S. Review of Electric machines. Dynamics and steady state by George J. Thaler and Milton L. Wilcox	42	—, (see Lamb, C. St. John)	
Leslie, W. H. P. Review of Electronic digital systems by R. K. Richards	138	Read, J. R. L. (see Matthews)		—, Review of Logic handbook by D. A. A. Lamb	42
Levis, C. P. (see Balmer)		Ream, N. Review of A survey of the theoretical behaviour of queues by W. N. Miller	196	Walker, R. I. Review of Theory and applications of active devices by Herbert J. Reich, John G. Skalnik and Herbert L. Krauss	197
Lilburn, C. W. Review of Plant relocation by Edmund S. Whitman and W. James Schmidt	91	—, Review of Non-linear differential equations by T. V. Davies and Eleanor M. James	139	—, Review of Thermal conductivity of semiconductor at low temperatures by S. D. Probert and C. B. Thomas	197
Lindley, Sir Arnold. Review of Total job training by Paul M. Stokes	42	Redding, R. J. Automation in the detailed design of chemical plant	275	Watkin, D. Review of Critical path analysis—problems and solutions by K. G. Lockyer	139
Lovering, W. F. An extension of the potentialities of logic elements	321	—, Datafair '67	517	—, Review of Electronic automatic control devices by A. A. Bulgakov	464
—, Review of Physical principles of magnetism by F. Brailsford	42	—, Review of Numerical control: its application in manufacturing	556	Webb, C. R. Analysis of non-linear control systems	297, 347, 395, 455
—, Review of Semiconductor circuits: worked examples by J. R. Abrahams and G. J. Pridham	306	Reid, Karl N. Jr (see Shearer)		—, Review of Automatic control theory by B. E. DeRoy	464
Macfarlane, A. G. J. Review of An introduction to dynamic programming: the theory of multistage decision processes by O. L. R. Jacobs	463	Rekoff, M. G. Jr State variables in sampled-data systems	535, 596	—, Review of Curing instability in a rotating face seal control system: a case history of the application of control techniques in mechanical engineering by R. D. Tyler and B. J. Cooper	91
—, Review of An introduction to tensor calculus and relativity (2nd ed.) by D. F. Lawden	408	Roberts, J. D. Review of Interval analysis by Ramon E. Moore	196	—, Review of Solutions of problems in automatic control by J. J. Guy	195
McLean, F. L. D. The phase-locked loop	339	—, Review of Topological vector spaces and distributions (Vol. 1) by John Horvath	463	West, J. C. Clutches for control systems (Survey 40)	586
Macmillan, R. H. Review of Ergonomics and safety in motor car design	512	Robertson, D. I. An example in non-linear analysis	288	Westcott, J. H. Advances in computer control	269
Medan, M. P. S. Review of Teach yourself computer programming by Richard Murray-Shelley	555	Rose, J. Review of Computer courses 1967	556	—, Review of Proceedings of the symposium on system theory, New York, April 20-22 1965	138
Matthews, R. B. and Read, J. R. L. Review of Logic and algorithms: with applications to the computer, and information sciences by R. R. Korfhage	464	Rosenbrock, H. H. Review of Numerical methods by A. D. Booth	195	Whalley, Instructor Lt R. It pays to derive t.f.s by Lagrangian equations when systems get complicated	386, 450
Mayne, D. Q. Review of A Fortran programme for determining frequency responses for linear systems with time delays by P. R. Milsum	464	Ross, L. C. How to find statistical describing functions	33	Wilkes, M. V. Review of A comparative study of programming languages by B. Hignam	555
—, Review of An introduction to linear analysis by D. L. Kreider, R. G. Kuller, D. R. Ostberg and F. W. Perkins	196	Russell, A. Review of It's logic that counts by M. J. Tant and C. C. S. Hooper	41	—, Review of An introduction to algorithmic methods using the Mad language by Alan B. Marcovitz and Earl J. Schweppe	306
—, Review of Applied regression analysis by N. R. Draper and H. Smith	196	—, Review of Standard relay modules for safety and control circuits by B. J. Maple and A. G. Cooper	196	—, Review of List processing by J. M. Foster	555
—, Review of Stationary and related stochastic processes by H. Cramer and M. R. Leadbetter	512	St. Johnston, (Mrs) A. N. Review of Programming for digital computers—using computers to advantage (2nd ed.) by J. F. Davison	407	—, Review of The programming language Lisp: its operation and applications edited by Edmund C. Berkeley and Daniel G. Bobrow	42
		Sander, K. F. Review of Network analysis and synthesis by Franklin F. Kuo	91	Williams, J. C. Review of Modern electronics by H. de Waard and D. Lazarus	140
		Scholes, J. F. M. Review of An introduction to Algol programming by T. Ekman and C. E. Fröberg	41	Wippell, A. P. R. Schuler tuning	435
		Seymour, J. B. (see Dungan)		Withers, R. M. J. Review of Instrument maintenance management, vol. 1 edited by H. S. Wilson	362
		Sheffer, John (see Frade)		Worth, T. B. Review of Economic aspects of numerically controlled machine tools	463
		Shearer, J. Lowen, Etzweiler, George A. and Reid, Karl N. Jr Look at America	39, 87, 137, 152, 302, 359, 403, 462, 551	—, Review of Profitable productivity by T. F. O'Connor	249
		Shepherd, W. and Stanway, J. Thyristors in the control of electrical systems	28, 83, 130	Young, J. F. A method of precise position indication	588



381  
555  
  
41  
362  
  
140  
196  
511  
555  
138  
42  
  
555  
464  
515  
248  
511  
511  
57  
488  
500  
  
479  
42  
197  
197  
139  
464  
455  
484  
  
91  
195  
586  
269  
138  
450  
595  
906  
555  
  
42  
140  
435  
362  
463  
249  
588  
—